



SEQUENCE LISTING

<110> Japan as Represented by Director General of Okazaki National Research
Institutes

<120> Nav2 channel gene-deficient non-human animals

<130> U2001P059

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<150> JP 2000/237320

<151> 2000-08-04

<150> JP 2000/241637

<151> 2000-08-09

<150> JP 2001/222263

<151> 2001-07-23

<160> 8

<170> PatentIn Ver. 2.1

<210> 1

<211> 446

<212> DNA

<213> Rattus norvegicus

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accglgtcag agccctlgga agatgtggat ccatactact atgttaagag aaatacttic 240
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ttgtctcctt taagctctct cagaagagct gttatcaagg ttttggltgca ccccttttg 360
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<212> DNA

<213> Mus musculus

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caacaaccctc cgtagtagag atctgagaag acaagcccag gagagcaaag ggctctcgtg 180
agccctlgcat ctgggggttct tgcctggagtt ttagtgaaga ctagcatltg acagcaacta 240

taaaaccgaa a atg ttg act tcc cca gag ccg aag ggc ctt gtc cca ttt 290

Met Leu Thr Ser Pro Glu Pro Lys Gly Leu Val Pro Phe

1

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aca aca gag tca ctt gaa ctt ata gaa aat cac att gct aaa aaa tgc 338

Thr Thr Glu Ser Leu Glu Leu Ile Glu Asn His Ile Ala Lys Lys Cys

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aat gaa gac ccc gaa gaa gaa gaa ggt tta aaa cca agt cgt aat cta 386

Asn Glu Asp Pro Glu Glu Glu Glu Gly Leu Lys Pro Ser Arg Asn Leu

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gaa gct ggc aaa aga ctt cca att ccc tat gga acc ctc cct cga gga 434

Glu Ala Gly Lys Arg Leu Pro Ile Pro Tyr Gly Thr Leu Pro Arg Gly

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acc gtg tca gag ccc ttg gaa gat gtg gat cca tac tac tat gtt aag 482

Thr Val Ser Glu Pro Leu Glu Asp Val Asp Pro Tyr Tyr Tyr Val Lys

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aga aat act ttc atg gtc tta aac aga agc aga gtc atc ttc agg ttc 530

Arg Asn Thr Phe Met Val Leu Asn Arg Ser Arg Val Ile Phe Arg Phe

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aat gcg gtt tcc atc ttc tgc aca ttg tct cct cta aac tcc ctc aga 578

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aga gca gct atc aag gct ttg gtg cat ccc ctt ttt cgc ctg ctg att 626
 Arg Ala Ala Ile Lys Ala Leu Val His Pro Leu Phe Arg Leu Leu Ile
 110 115 120 125

tta atc agc gtt ctc act gac agc ata ctt atg tgc atg agt aat cta 674
 Leu Ile Ser Val Leu Thr Asp Ser Ile Leu Met Cys Met Ser Asn Leu
 130 135 140

cca gaa tgg ata ttg gca ata gag act ttg ctt ggg att tac gca 722
 Pro Glu Trp Ile Leu Ala Ile Glu Asn Thr Leu Leu Gly Ile Tyr Ala
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 Phe Glu Ile Leu Val Lys Val Ile Ala Arg Gly Ile Trp Ala Gly Ser
 160 165 170

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 175 180 185

ttg ttc gag cta atc aca agg ttt tca cct cta agc tcc ttt tta atg 866
 Leu Phe Glu Leu Ile Thr Arg Phe Ser Pro Leu Ser Ser Phe Leu Met
 190 195 200 205

ctt aaa act atc aga act ttc cga att ttg aag att atc cct ttg aac 914
 Leu Lys Thr Ile Arg Thr Phe Arg Ile Leu Lys Ile Ile Pro Leu Asn
 210 215 220

cac ggc ctg cag tct att gtg atg aca ctg gcc cag tgt ttg aag aaa 962

His Gly Leu Gln Ser Ile Val Met Thr Leu Ala Gln Cys Leu Lys Lys

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cta ttt ggt gcc att gcc cta gct ctg ttt ttt ctg gct gtg ttt tca 1010

Leu Phe Gly Ala Ile Ala Leu Ala Leu Phe Phe Leu Ala Val Phe Ser

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cta ctt gga atg ggc ctc ttc atg ggc aac ctg aag cac aaa tgt ctg 1058

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cgg tgg cca gaa gaa aat gaa aat gaa acg ctg cac aac aga act gga 1106

Arg Trp Pro Glu Glu Asn Glu Asn Glu Thr Leu His Asn Arg Thr Gly

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agc ctt aac tat agt cca gaa aga ata aac ttc tac tac atg gaa gga 1154

Ser Leu Asn Tyr Ser Pro Glu Arg Ile Asn Phe Tyr Tyr Met Glu Gly

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gcg aaa tat gct ctc ctt tgc ggc aac agg aca gat gct ggc cag tgt 1202

Ala Lys Tyr Ala Leu Leu Cys Gly Asn Arg Thr Asp Ala Gly Gln Cys

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ccg gaa ggt tat gtg tgt gta aaa gaa ggc aca aat cct gac aat ggc 1250

Pro Glu Gly Tyr Val Cys Val Lys Glu Gly Thr Asn Pro Asp Asn Gly

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ttc aca agt ttt gac aac ttt ggc tgg tcc ctt ctt gct atg ttt cga 1298

Phe Thr Ser Phe Asp Asn Phe Gly Trp Ser Leu Leu Ala Met Phe Arg

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Leu Met Thr Gln Asp Tyr Pro Glu Leu Leu Tyr His Gln Ile Leu Tyr			
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gct tca gga aag gtc tac atg ata ttt ttt gtt atg atc agt ttc tgg			1394
Ala Ser Gly Lys Val Tyr Met Ile Phe Phe Val Met Ile Ser Phe Trp			
	370	375	380
ttt gcc ttc tat ttg aca agt ttg ttc ttg ggc ata ctc act atg acc			1442
Phe Ala Phe Tyr Leu Thr Ser Leu Phe Leu Gly Ile Leu Thr Met Thr			
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tat gaa aag gaa aag cag aga gcc tgt gag gaa tct gga ggc ctt gat			1490
Tyr Glu Lys Glu Lys Gln Arg Ala Cys Glu Glu Ser Gly Gly Leu Asp			
	400	405	410
ccc aaa tgt caa cag aca gtg aaa gaa ctc gac gaa gaa aat gac gca			1538
Pro Lys Cys Gln Gln Thr Val Lys Glu Leu Asp Glu Glu Asn Asp Ala			
	415	420	425
gct gag atg gaa act aca caa ata gaa atg aag aaa aga tcc cca act			1586
Ala Glu Met Glu Thr Thr Gln Ile Glu Met Lys Lys Arg Ser Pro Thr			
430	435	440	445
tct ata aac acc aca ctg gat ata ctg gaa gac act acc ctc gga cac			1634
Ser Ile Asn Thr Thr Leu Asp Ile Leu Glu Asp Thr Thr Leu Gly His			
	450	455	460

aga gaa gaa cca gaa aca tcc agg aag aaa tgc cca ata tgt tgg cat 1682

Arg Glu Glu Pro Glu Thr Ser Arg Lys Lys Cys Pro Ile Cys Trp His

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aag ttt att aaa acc tgc ttc atc tgg aaa tgc tct ccc tgt tgg gta 1730

Lys Phe Ile Lys Thr Cys Phe Ile Trp Lys Cys Ser Pro Cys Trp Val

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aaa ctg aac gag ttt gct gat aga gtt ata aca cac cca ttg gct gat 1778

Lys Leu Asn Glu Phe Ala Asp Arg Val Ile Thr His Pro Leu Ala Asp

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ctt ttt ctt gtc atc tgc atc gtt tta aac ata tgc ttc ctc gcc cta 1826

Leu Phe Leu Val Ile Cys Ile Val Leu Asn Ile Cys Phe Leu Ala Leu

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gaa cat ttt cca atg agc gag gag ctc agg tct ctc ctt cac gtt gga 1874

Glu His Phe Pro Met Ser Glu Glu Leu Arg Ser Leu Leu His Val Gly

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aat ttg gtt ttt att gga att tac aca ata gaa ctg att ttg aag ata 1922

Asn Leu Val Phe Ile Gly Ile Tyr Thr Ile Glu Leu Ile Leu Lys Ile

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atc gct atg cat cca tat ggg tat ttt caa ata agc tgg aat att ttt 1970

Ile Ala Met His Pro Tyr Gly Tyr Phe Gln Ile Ser Trp Asn Ile Phe

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 Asp Ser Ile Leu Val Val Leu Glu Leu Thr Glu Ile Leu Leu Ala Asp
 575 580 585

gtt gaa gga cta gct gtt tta ata aca gtc cca ttg ata ttt ata aaa 2066
 Val Glu Gly Leu Ala Val Leu Ile Thr Val Pro Leu Ile Phe Ile Lys
 590 595 600 605

ctg ggg aag tac gga cca cca ttt gag agt ttg atg cgc atc ctt ggt 2114
 Leu Gly Lys Tyr Gly Pro Pro Phe Lys Ser Leu Met Arg Ile Leu Gly
 610 615 620

agc tca ttg atg gcc ctg aaa gat ttg gtc ctg ttg ctc tgc ata ttc 2162
 Ser Ser Leu Met Ala Leu Lys Asp Leu Val Leu Leu Leu Cys Ile Phe
 625 630 635

gtt tac ttc tct gct gtg ttc ggc atg aag ctg ttt ggt cga agt tac 2210
 Val Tyr Phe Ser Ala Val Phe Gly Met Lys Leu Phe Gly Arg Ser Tyr
 640 645 650

aag gat tgt gtc tgc cac ata aag gaa gac tgc caa ccc caa cgc tgg 2258
 Lys Asp Cys Val Cys His Ile Lys Glu Asp Cys Gln Pro Gln Arg Trp
 655 660 665

cac atg agt gac ttc ctt cat gcc tac atg acc gtg ttc cga atc ctc 2306
 His Met Ser Asp Phe Leu His Ala Tyr Met Thr Val Phe Arg Ile Leu
 670 675 680 685

tgt gga gag tgg ata gag aca tta tgg gag tgt atg gag gtt gca ggc 2354

Cys Gly Glu Trp Ile Glu Thr Leu Trp Glu Cys Met Glu Val Ala Gly

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cag gcc tgg tgt att cct ttt tac atg atg gtc att tta att gga aac 2402

Gln Ala Trp Cys Ile Pro Phe Tyr Met Met Val Ile Leu Ile Gly Asn

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tta ttg ata ctt tac ctc ttt gtg aca ttg gtg agc tct ttc agt tac 2450

Leu Leu Ile Leu Tyr Leu Phe Val Thr Leu Val Ser Ser Phe Ser Tyr

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tat gat gct aca tcg gaa gtg aac aaa gaa gcc aaa aac ctt cag ctt 2498

Tyr Asp Ala Thr Ser Glu Val Asn Lys Glu Ala Lys Asn Leu Gln Leu

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gcc atg gca agg ata aag tcg gga ata aac tcc atg ctt ctt aaa tta 2546

Ala Met Ala Arg Ile Lys Ser Gly Ile Asn Ser Met Leu Leu Lys Leu

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atg tgc aca gaa aga agt gtt cct aca gaa gca aca gac caa ata tgt 2594

Met Cys Thr Glu Arg Ser Val Pro Thr Glu Ala Thr Asp Gln Ile Cys

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gat cca agt gtt aaa gag aat att tct ggc cat act ctt tct gaa ctg 2642

Asp Pro Ser Val Lys Glu Asn Ile Ser Gly His Thr Leu Ser Glu Leu

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agc aac acc caa act ttc ctc aga tat aag gac cag agc agc agc act 2690

Ser Asn Thr Gln Thr Phe Leu Arg Tyr Lys Asp Gln Ser Ser Ser Thr

800	805	810	
gag aaa act cca gtg act gaa tct gag agt caa tct ctg att gct agt			2738
Glu Lys Thr Pro Val Thr Glu Ser Glu Ser Gln Ser Leu Ile Ala Ser			
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ccc agt gcc tct gaa act gtg ccg att gct tca gga gaa tct gat ata			2786
Pro Ser Ala Ser Glu Thr Val Pro Ile Ala Ser Gly Glu Ser Asp Ile			
830	835	840	845
gaa aat ctg gat aac aag gag act cgg agc aag tct ggg aat gga ggc			2834
Glu Asn Leu Asp Asn Lys Glu Thr Arg Ser Lys Ser Gly Asn Gly Gly			
	850	855	860
agt aaa gag aaa atg aag cag tct agc tca tct gag tgc agc aca gtt			2882
Ser Lys Glu Lys Met Lys Gln Ser Ser Ser Ser Glu Cys Ser Thr Val			
	865	870	875
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Asp Ile Ala Ile Ser Glu Glu Glu Glu Met Val Tyr Glu His Glu Lys			
880	885	890	
tca aag ctt cat aaa aat ggt tat gaa cgc aaa tct tca act ggt caa			2978
Ser Lys Leu His Lys Asn Gly Tyr Glu Arg Lys Ser Ser Thr Gly Gln			
895	900	905	
atc agt aga gaa tct agg aat gga aag att tgg aaa aac atc agg aaa			3026
Ile Ser Arg Glu Ser Arg Asn Gly Lys Ile Trp Lys Asn Ile Arg Lys			
910	915	920	925

act tgc tgc aag ata gla gag aac agc tgg ttt gag tgt ttc att ggc 3074
Thr Cys Cys Lys Ile Val Glu Asn Ser Trp Phe Glu Cys Phe Ile Gly

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ctg gtc act ctg ctc tgc aca ggc act ctg gct ctt gaa gac ata tat 3122
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att gat cag aga aaa acc act aaa atc tta ctg gaa tat gcg gac atg 3170
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Tyr Gly Phe Lys Ala Phe Phe Ser Asn Asn Trp Tyr Lys Leu Asp Phe

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atg gtt gtt atc gtg ttt tgt ctt agc tta ata ggc aaa act cga gaa 3314
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1015

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gat ctg aac cct ctg aca tca ata aag ttc ctt cga gca cta aga gtt 3362
Asp Leu Asn Pro Leu Thr Ser Ile Lys Phe Leu Arg Ala Leu Arg Val

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ctg tcg cag ttt gaa aga atg aag gtg gtc ctg aga gct ttg ata aaa 3410
Leu Ser Gln Phe Glu Arg Met Lys Val Val Leu Arg Ala Leu Ile Lys

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Leu Leu Phe Ser Val Ile Gly Val Gln Leu Phe Ala Gly Lys Phe Tyr

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1075

1080

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gaa tgc att gac cca aca aag gga gaa aga ttc cct gta ttt gaa gtt 3554
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atg aat aaa agt cag tgt gaa aaa ctg tta ttc aat gaa tca atg ccg 3602
Met Asn Lys Ser Gln Cys Glu Lys Leu Leu Phe Asn Glu Ser Met Pro

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Trp Glu Asn Ala Lys Leu Asn Phe Asp Asn Val Gly Asn Gly Phe Leu

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1125

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tct tta ctc caa gtg gca aca ttt aat gga tgg atc agt att atg aat 3698
Ser Leu Leu Gln Val Ala Thr Phe Asn Gly Trp Ile Ser Ile Met Asn

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1140

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Ser Ala Ile Asp Ser Val Gly Val Asn Met Gln Pro Ser Phe Glu Tyr

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aac ctc tac atg tat agt tac ttt atc atc ttt gtt atc ttt gga tta 3794

Asn Leu Tyr Met Tyr Ser Tyr Phe Ile Ile Phe Val Ile Phe Gly Leu

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ttt ctt cct ctc tgt atg ctg att ggt gtt att att cgc aat ttc aac 3842

Phe Leu Pro Leu Cys Met Leu Ile Gly Val Ile Ile Arg Asn Phe Asn

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aag cag aaa att aag cag gga gga tca aac atc ttt ata aca gta aaa 3890

Lys Gln Lys Ile Lys Gln Gly Gly Ser Asn Ile Phe Ile Thr Val Lys

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cag aaa aaa cag tac cgg gcc ctg aag aag ctc ttg tat gca gac gtc 3938

Gln Lys Lys Gln Tyr Arg Ala Leu Lys Lys Leu Leu Tyr Ala Asp Val

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cag aaa cca aca ccc cgc ccc aga aac aaa ttc caa ggc ttc ctt ttt 3986

Gln Lys Pro Thr Pro Arg Pro Arg Asn Lys Phe Gln Gly Phe Leu Phe

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gac cta gta aca cac cgt gtc ttt aat gtt atc atc ata ctt ctt atc 4034

Asp Leu Val Thr His Arg Val Phe Asn Val Ile Ile Ile Leu Leu Ile

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tgt ttc caa gca aca acc att atg ata caa aag gat gag cag agt cca 4082

Cys Phe Gln Ala Thr Thr Ile Met Ile Gln Lys Asp Glu Gln Ser Pro

1265	1270	1275	
caa atg gaa act gcc atc ttc tgg atg aac tcc att ttt gtc atg ctg			4130
Gln Met Glu Thr Ala Ile Phe Trp Met Asn Ser Ile Phe Val Met Leu			
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ttc act ctg gaa tgc ata ctg aag ctc act gcc ttc cgt tgc cac tac			4178
Phe Thr Leu Glu Cys Ile Leu Lys Leu Thr Ala Phe Arg Cys His Tyr			
1295	1300	1305	
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Phe Thr Ser Ala Trp Asn Val His Asp Phe Met Val Val Ile Phe Ser			
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Ile Thr Gly Leu Leu Leu Pro Leu Thr Ile Gly Gln Tyr Phe Val Pro			
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cct tcc ctg gtg cag ctg att ctt ctc tct cga gtc atc cac atc ctg			4322
Pro Ser Leu Val Gln Leu Ile Leu Leu Ser Arg Val Ile His Ile Leu			
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cgt cct ggg aaa gga ccg aag gtg ttc cat gac ctg atg ctt ccc ttg			4370
Arg Pro Gly Lys Gly Pro Lys Val Phe His Asp Leu Met Leu Pro Leu			
1360	1365	1370	
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Ile Leu Ala Leu Pro Ala Leu Leu Asn Ile Ser Leu Leu Ile Phe Leu			
1375	1380	1385	

gtc atg ttc atc tac gcc atc ttt gga atg tac aac ttt gcc tat gta 4466

Val Met Phe Ile Tyr Ala Ile Phe Gly Met Tyr Asn Phe Ala Tyr Val

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aag aaa gaa gcc gga att aat gat gtg tcc aac ttt gag acc ttt gga 4514

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agc agt atg ctc tgt ctc ttc caa gtt aca acg ttt tct ggt tgg gac 4562

Ser Ser Met Leu Cys Leu Phe Gln Val Thr Thr Phe Ser Gly Trp Asp

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Gly Met Leu Asp Ala Ile Phe Asn Ser Gln Trp Ser Asp Cys Asp Pro

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Asp Lys Ile Asn Pro Gly Thr Gln Val Lys Gly Asp Cys Gly Ser Pro

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Ser Val Gly Ile Ser Tyr Phe Val Ser Tyr Ile Leu Ile Ser Trp Leu

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Ile Ile Val Asn Met Tyr Ile Val Leu Ile Met Glu Phe Leu Ser Ile

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gac tct agc aag ctt tct gat ~~att~~ gca gct gct ctg gat cct cct ctt 4898
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acg aaa aga gtg atg gga aag gat gag agg gtg gag aaa atc ctt tca 5042
Thr Lys Arg Val Met Gly Lys Asp Glu Arg Val Glu Lys Ile Leu Ser

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gag ata gaa tcc ggg ttc atg tta gcg aac cct ttc aaa atc act tat 5090
Glu Ile Glu Ser Gly Phe Met Leu Ala Asn Pro Phe Lys Ile Thr Tyr

1600

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Glu Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Ala Val Ser Ala

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acc atc atc cag cgt gca tat aaa agc tac cgc tta agg caa aat gac 5186

Thr Ile Ile Gln Arg Ala Tyr Lys Ser Tyr Arg Leu Arg Gln Asn Asp

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aag aat gta tca gat act cct gct ata gat gac cgc aga gat gat ctt 5234

Lys Asn Val Ser Asp Thr Pro Ala Ile Asp Asp Arg Arg Asp Asp Leu

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act tct aaa ggt gct cac tct ggc aaa atc gag gag aag gca tct att 5282

Thr Ser Lys Gly Ala His Ser Gly Lys Ile Glu Glu Lys Ala Ser Ile

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1670

1675

cag acc cag att taa tgacattcc cacttctact ttctttacat atgtcccca 5337

Gln Thr Gln Ile

1680

gcactaaatg ttaactgata ttaagctgga gatcagaaac tagagataat gataacatct 5397

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5482

<210> 3

<211> 1681

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Pro Glu Glu Glu Glu Gly Leu Lys Pro Ser Arg Asn Leu Glu Ala Gly
35 40 45

Lys Arg Leu Pro Ile Pro Tyr Gly Thr Leu Pro Arg Gly Thr Val Ser
50 55 60

Glu Pro Leu Glu Asp Val Asp Pro Tyr Tyr Tyr Val Lys Arg Asn Thr
65 70 75 80

Phe Met Val Leu Asn Arg Ser Arg Val Ile Phe Arg Phe Asn Ala Val
85 90 95

Ser Ile Phe Cys Thr Leu Ser Pro Leu Asn Ser Leu Arg Arg Ala Ala
100 105 110

Ile Lys Ala Leu Val His Pro Leu Phe Arg Leu Leu Ile Leu Ile Ser
115 120 125

Val Leu Thr Asp Ser Ile Leu Met Cys Met Ser Asn Leu Pro Glu Trp
130 135 140

Ile Leu Ala Ile Glu Asn Thr Leu Leu Gly Ile Tyr Ala Phe Glu Ile
145 150 155 160

Leu Val Lys Val Ile Ala Arg Gly Ile Trp Ala Gly Ser Phe Ser Phe
165 170 175

Leu Gly Asp Leu Trp Asn Trp Leu Asp Phe Ser Val Thr Leu Phe Glu
180 185 190

Leu Ile Thr Arg Phe Ser Pro Leu Ser Ser Phe Leu Met Leu Lys Thr
195 200 205

Ile Arg Thr Phe Arg Ile Leu Lys Ile Ile Pro Leu Asn His Gly Leu			
210	215	220	
Gln Ser Ile Val Met Thr Leu Ala Gln Cys Leu Lys Lys Leu Phe Gly			
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Ala Ile Ala Leu Ala Leu Phe Phe Leu Ala Val Phe Ser Leu Leu Gly			
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Met Gly Leu Phe Met Gly Asn Leu Lys His Lys Cys Leu Arg Trp Pro			
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Glu Glu Asn Glu Asn Glu Thr Leu His Asn Arg Thr Gly Ser Leu Asn			
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Tyr Ser Pro Glu Arg Ile Asn Phe Tyr Tyr Met Glu Gly Ala Lys Tyr			
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Ala Leu Leu Cys Gly Asn Arg Thr Asp Ala Gly Gln Cys Pro Glu Gly			
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Tyr Val Cys Val Lys Glu Gly Thr Asn Pro Asp Asn Gly Phe Thr Ser			
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Phe Asp Asn Phe Gly Trp Ser Leu Leu Ala Met Phe Arg Leu Met Thr			
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Gln Asp Tyr Pro Glu Leu Leu Tyr His Gln Ile Leu Tyr Ala Ser Gly			
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Lys Val Tyr Met Ile Phe Phe Val Met Ile Ser Phe Trp Phe Ala Phe			
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Tyr Gly Pro Pro Phe Lys Ser Leu Met Arg Ile Leu Gly Ser Ser Leu		
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Asp Phe Leu His Ala Tyr Met Thr Val Phe Arg Ile Leu Cys Gly Glu

675

680

685

Trp Ile Glu Thr Leu Trp Glu Cys Met Glu Val Ala Gly Gln Ala Trp

690

695

700

Cys Ile Pro Phe Tyr Met Met Val Ile Leu Ile Gly Asn Leu Leu Ile

705

710

715

720

Leu Tyr Leu Phe Val Thr Leu Val Ser Ser Phe Ser Tyr Tyr Asp Ala

725

730

735

Thr Ser Glu Val Asn Lys Glu Ala Lys Asn Leu Gln Leu Ala Met Ala

740

745

750

Arg Ile Lys Ser Gly Ile Asn Ser Met Leu Leu Lys Leu Met Cys Thr

755

760

765

Glu Arg Ser Val Pro Thr Glu Ala Thr Asp Gln Ile Cys Asp Pro Ser

770

775

780

Val Lys Glu Asn Ile Ser Gly His Thr Leu Ser Glu Leu Ser Asn Thr

785

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795

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Gln Thr Phe Leu Arg Tyr Lys Asp Gln Ser Ser Ser Thr Glu Lys Thr

805

810

815

Pro Val Thr Glu Ser Glu Ser Gln Ser Leu Ile Ala Ser Pro Ser Ala

820

825

830

Ser Glu Thr Val Pro Ile Ala Ser Gly Glu Ser Asp Ile Glu Asn Leu

835

840

845

Asp Asn Lys Glu Thr Arg Ser Lys Ser Gly Asn Gly Gly Ser Lys Glu

850

855

860

Lys Met Lys Gln Ser Ser Ser Ser Glu Cys Ser Thr Val Asp Ile Ala

865

870

875

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Ile Ser Glu Glu Glu Glu Met Val Tyr Glu His Glu Lys Ser Lys Leu

885

890

895

His Lys Asn Gly Tyr Glu Arg Lys Ser Ser Thr Gly Gln Ile Ser Arg

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Pro Leu Thr Ser Ile Lys Phe Leu Arg Ala Leu Arg Val Leu Ser Gln		
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Phe Glu Arg Met Lys Val Val Leu Arg Ala Leu Ile Lys Thr Thr Leu		
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Pro Thr Val Ser Val Phe Leu Val Cys Leu Met Ile Trp Leu Leu Phe		
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Ser Val Ile Gly Val Gln Leu Phe Ala Gly Lys Phe Tyr Glu Cys Ile		
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1610

1615

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1630

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1635

1640

1645

Ser Asp Thr Pro Ala Ile Asp Asp Arg Arg Asp Asp Leu Thr Ser Lys

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1675

1680

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